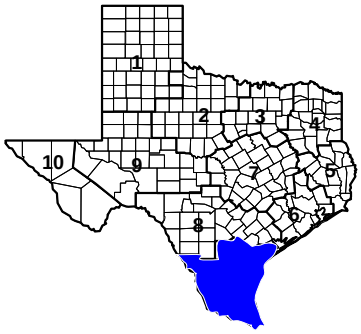
Birth Defects in the Lower Rio Grande Valley– A Special Report of the Texas Birth Defects Monitoring Division

INTRODUCTION

This report presents information on selected birth defects among deliveries to residents of Public Health Region 11 during 1996. Public Health Region 11 encompasses the following counties: Aransas, Bee, Brooks, Cameron, Duval, Hidalgo, Jim Hogg, Jim Wells, Kenedy, Kleberg, Live Oak, McMullen, Nueces, Refugio, San Patricio, Starr, Webb, Willacy, and Zapata. Major urban areas include Brownsville, McAllen, Harlingen, Laredo, and Corpus Christi.

Figure 1: Region 11--the Lower Rio Grande Valley



This report includes information in the Texas Birth Defects Registry as of December 15, 1998.

Charts and text in this report illustrate selected highlights. A glossary defining the birth defects shown in this report is available upon request. To receive a copy of the glossary, please contact Amy Case, Information Specialist, at 512-458-7232 or by email at amy.case@tdh.state.tx.us.

METHODS

Case Definition

To be included as a case in this report, all of the following must be true.

- The mother's residence at the time of delivery must be in Public Health Region 11.
- The infant or fetus must have been delivered in 1996.
- The infant or fetus must have a condition monitored by the Registry. For 1996 deliveries, over 1,000 conditions were monitored, some of which were selected for this report.
- The defect must be diagnosed or its signs or symptoms must be recognized within the first year of life. An exception is fetal alcohol syndrome, which must be diagnosed or recognized within the first six years of life.
- The infant must have been born alive, or the fetus must have a gestational age of at least 20 weeks or a birth weight of at least 500 grams.

Pregnancies that end before 20 weeks are excluded from the case definition. Since some conditions may be prenatally diagnosed and the pregnancy terminated prior to 20 weeks, the observed rates may underestimate true occurrence. This is most likely to have an impact on anencephaly, spina bifida, Down syndrome, Patau syndrome, Edwards syndrome, and hydrocephaly.

Data Collection Methods

The Texas Birth Defects Monitoring Division uses active surveillance. This means it does not require reporting by hospitals or medical professionals. Instead, trained staff of the program routinely visit medical facilities where they have the authority to review logbooks, hospital discharge lists and other records. Program staff review medical charts for each potential case identified. If the child has a birth defect covered by the Registry, detailed demographic and diagnostic

information is abstracted. That information is entered into the computer and sent for processing. Quality control procedures for finding cases, abstracting information and coding defects help ensure completeness and accuracy.

Surveillance activities in Region 11 are completed through a cooperative agreement with the Texas Neural Tube Defect Project.

Data Analysis Methods

Results are presented for selected defects monitored in 1996, whether the defect occurred alone or together with others. Because a child often has more than one defect, it is not meaningful to sum over all diagnostic categories in the tables to obtain the total number of children with birth defects.

Tables include the number of cases found, the estimated prevalence per 10,000 live births, and the 95% confidence interval for the prevalence. Birth prevalence (also referred to as rate) was calculated as follows:

$$\frac{\text{cases}}{\text{total number of live births}} \times 10{,}000$$

The prevalence is only an estimate of the true prevalence, which is unknown. The confidence interval contains the true prevalence of a birth defect 95% of the time. A wide interval indicates the uncertainty stemming from small numbers. This report displays exact 95% confidence intervals based on the Poisson distribution. If one is comparing two prevalences and the 95% confidence interval of each does not include the rate of the other, the prevalences are significantly different from each other. For more information on data analysis methods used in this report, contact the Texas Birth Defects Monitoring Division at 512-458-7232.

RESULTS

Overall Prevalence at Birth

In 1996, there were 36,651 live births to residents of Public Health Region 11. A total of 1,373 cases was detected with one or more of the birth defects monitored in 1996. Of these 1,337 were live born, corresponding to 3.6 percent of all live births. In addition to live births, 16 cases were detected among later fetal deaths (20+ weeks' gestation) and 17 cases among induced pregnancy terminations that did not result in a live birth (also 20+ weeks). There were three cases with other or unspecified pregnancy outcomes.

The most common birth defect was atrial septal defect, which affected 154.7 cases per 10,000 live births (Table 1). Atrial septal defect is a heart defect in which one or more openings in the atrial septum allows mixing of oxygenated and unoxygenated blood. The five most common birth defects were all heart defects: atrial septal defect, pulmonary artery anomaly, patent ductus arteriosus, tricuspid valve stenosis and atresia, and ventricular septal defect. Rounding out the ten leading birth defects were hypospadias/epispadias, obstructive genitourinary defect, Down syndrome, cleft lip with or without cleft palate, and pyloric stenosis. The prevalence of cleft lip with or without cleft palate was twice the prevalence of cleft palate alone.

Spina bifida without anencephaly was the 13 th most common birth defect, affecting 6.28 cases per 10,000 live births. Anencephaly was the 18th most common anomaly, affecting 3.55 cases per 10,000 live births. No definitive cases of fetal alcohol syndrome were detected, which is not unexpected given the difficulty of diagnosing this condition during infancy.

Data are not presented by maternal race/ethnicity, since this report includes only one year of data from a population for which 89 percent of babies are born to Hispanic mothers. Racial/ethnic patterns of birth defects will be shown in a wider-area surveillance report to be distributed later in 1999.

Table 1: Prevalence of Selected Birth Defects, Region 11, 1996

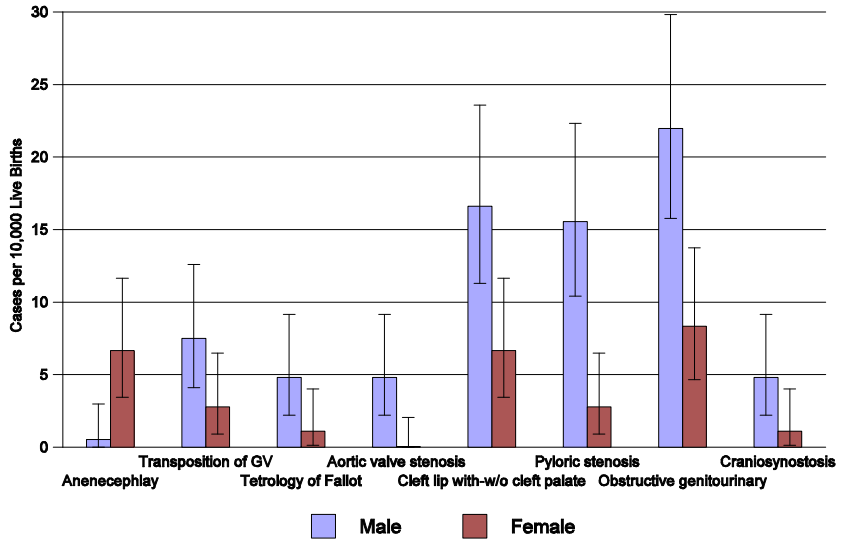
Organ System/Birth Defect	Cases	Rate*	95% Confidence Interval for Rate
CENTRAL NERVOUS SYSTEM			
Anencephaly	13	3.55	1.89 - 6.07
Spina bifida without anencephaly	23	6.28	3.98 - 9.42
Encephalocele	3	0.82	0.17 - 2.39
Microcephaly	13	3.55	1.89 - 6.07
Holoprosencephaly	6	1.64	0.60 - 3.56
Hydrocephaly	24	6.55	4.20 - 9.74
EYE OR EAR			
Anophthalmia	1	0.27	0.01 - 1.52
Microphthalmia	5	1.36	0.44 - 3.18
Cataract	3	0.82	0.17 - 2.39
Anotia/Microtia	9	2.46	1.12 - 4.66
CARDIOVASCULAR			
Common truncus	1	0.27	0.01 - 1.52
Transposition of the great vessels	19	5.18	3.12 - 8.10
Tetralogy of Fallot	11	3.00	1.50 - 5.37
Ventricular septal defect	256	69.85	61.55 - 78.95
Atrial septal defect	567	154.70	142.32 - 167.86
Endocardial cushion defect	7	1.91	0.77 - 3.94
Pulmonary valve stenosis and atresia	26	7.09	4.63 - 10.39
Tricuspid valve stenosis and atresia	281	76.67	67.97 - 86.18
Aortic valve stenosis	9	2.46	1.12 - 4.66
Hypoplastic left heart syndrome	8	2.18	0.94 - 4.30
Patent ductus arteriosus	290	79.12	70.28 - 88.78
Coarctation of aorta	21	5.73	3.55 - 8.76
Pulmonary artery anomaly	322	87.86	78.56 - 97.95
RESPIRATORY			
Choanal atresia or stenosis	3	0.82	0.17 - 2.39
Agenesis, aplasia, or hypoplasia of lung	13	3.55	1.89 - 6.07
ORAL CLEFTS			
Cleft palate alone (without cleft lip)	19	5.18	3.12 - 8.10
Cleft lip with or without cleft palate	43	11.73	8.49 - 15.80
GASTROINTESTINAL			
Tracheo-esophageal fistula/esophageal atresia	8	2.18	0.94 - 4.30
Pyloric stenosis	34	9.28	6.42 - 12.96
Stenosis or atresia of small intestine	9	2.46	1.12 - 4.66
Stenosis or atresia of large intestine, rectum, or anal canal	14	3.82	2.09 - 6.41
Hirschsprung disease	5	1.36	0.44 - 3.18
Biliary atresia	3	0.82	0.17 - 2.39
GENITOURINARY			
Hypospadias and epispadias	86	23.46	18.77 - 28.98
Renal agenesis or dysgenesis	11	3.00	1.50 - 5.37
Obstructive genitourinary defect	56	15.28	11.54 - 19.84
MUSCULOSKELETAL			
Congenital hip dislocation	6	1.64	0.60 - 3.56
Reduction deformity of the upper limbs	10	2.73	1.31 - 5.02
Reduction deformity of the lower limbs	6	1.64	0.60 - 3.56
Craniosynostosis	11	3.00	1.50 - 5.37
Diaphragmatic hernia	7	1.91	0.77 - 3.94
Omphalocele	5	1.36	0.44 - 3.18
Gastroschisis	10	2.73	1.31 - 5.02
CHROMOSOMAL			
Down syndrome (includes trisomy 21, translocations, and mosaics)	44	12.01	8.72 - 16.12
Patau syndrome (trisomy 13)	2	0.55	0.07 - 1.97
Edwards syndrome (trisomy 18)	9	2.46	1.12 - 4.66

*Cases per 10,000 live births.

Prevalence at Birth by Sex of Infant/Fetus

There were eight birth defects for which the prevalence among males was statistically significantly different from the prevalence among females (Figure 2). Of these eight conditions, anencephaly was the only condition where the prevalence was higher among females than among males. Prevalence was significantly higher among males than among females for transposition of the great vessels, tetralogy of Fallot, aortic valve stenosis, cleft lip with or without cleft palate, pyloric stenosis, obstructive genitourinary defect, and craniosynostosis. Hypospadias/epispadias was also higher among males than females; however, it is a male-specific defect.

Figure 2: Selected birth defects that differ significantly by sex



While anencephaly was dramatically higher among females than males, the prevalence of spina bifida did not statistically differ by infant sex. Cleft palate alone also did not differ according to sex, although cleft lip with or without cleft palate was higher among males than females. See also Table 2, Page 5.

Prevalence at Birth by Mother's Age

There were statistically significant differences in prevalence between maternal age groups for 21 conditions, but only a few displayed clear patterns (Figure 3). For gastroschisis and for stenosis or atresia of the large intestine, rectum or anal canal, the youngest mothers had the highest prevalence, and prevalence decreased as maternal age increased. Hypoplastic left heart syndrome and Down syndrome displayed J-shaped patterns, with highest prevalence among the oldest mothers and lowest prevalence among the middle maternal age groups. The prevalence of hydrocephaly was similar for all maternal age groups to age 34, but the prevalence among mothers 35 years or older was about four times that observed among younger mothers. See also Table 3, Pages 6-7.

Figure 3: Selected birth defects that differ by mother's age

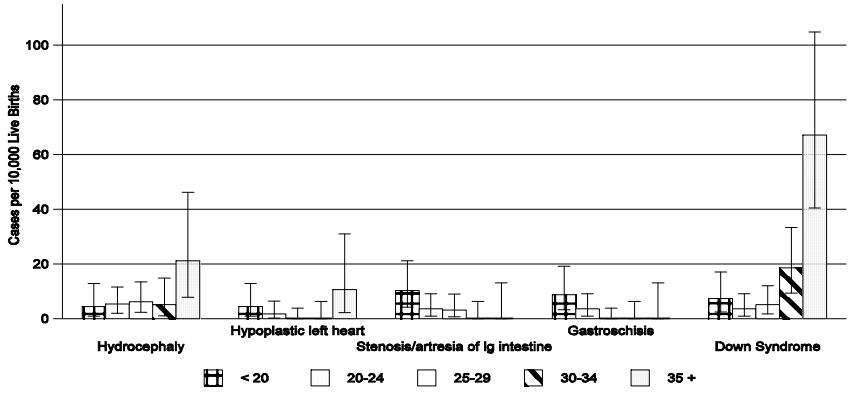


Table 2: Prevalence of Selected Birth Defects by Sex of Infant/Fetus:

Texas Birth Defects Monitoring Division, Birth Defects in the Lower Rio Grande Valley, 1996

Organ System/ Birth Defect	Male/ Female	Cases	Rate*	95% Confidence Interval for Rate
CENTRAL NERVOUS SYSTEM				
Anencephaly	M	1	0.54	0.01 - 2.99
	F	12	6.67	3.45 - 11.65
Spina bifida without anencephaly	M	9	4.82	2.21 - 9.16
	F	14	7.78	4.25 - 13.05
Encephalocele	M	1	0.54	0.01 - 2.99
	F	2	1.11	0.13 - 4.01
Microcephaly	M	4	2.14	0.58 - 5.49
	F	9	5.00	2.29 - 9.49
Holoprosencephaly	M	5	2.68	0.87 - 6.26
	F	1	0.56	0.01 - 3.10
Hydrocephaly	M	15	8.04	4.50 - 13.26
	F	9	5.00	2.29 - 9.49
EYE OR EAR				
Anophthalmia	M	1	0.54	0.01 - 2.99
	F	0	0.00	0.00 - 2.05
Microphthalmia	M	2	1.07	0.13 - 3.87
	F	3	1.67	0.34 - 4.87
Cataract	M	1	0.54	0.01 - 2.99
	F	2	1.11	0.13 - 4.01
Anotia/Microtia	M	7	3.75	1.51 - 7.73
	F	2	1.11	0.13 - 4.01
CARDIOVASCULAR				
Common truncus	M	0	0.00	0.00 - 1.98
	F	1	0.56	0.01 - 3.10
Transposition of the great vessels	M	14	7.51	4.10 - 12.59
	F	5	2.78	0.90 - 6.48
Tetralogy of Fallot	M	9	4.82	2.21 - 9.16
	F	2	1.11	0.13 - 4.01
Ventricular septal defect	M	119	63.80	52.85 - 76.34
	F	137	76.12	63.91 - 89.99
Atrial septal defect	M	301	161.37	143.78 - 180.49
	F	266	147.79	130.57 - 166.66
Endocardial cushion defect	M	5	2.68	0.87 - 6.26
	F	2	1.11	0.13 - 4.01
Pulmonary valve stenosis/atresia	M	17	9.11	5.31 - 14.59
	F	9	5.00	2.29 - 9.49
Tricuspid valve stenosis/atresia	M	152	81.49	69.05 - 95.52
	F	129	71.67	59.84 - 85.16
Aortic valve stenosis	M	9	4.82	2.21 - 9.16
	F	0	0.00	0.00 - 2.05
Hypoplastic left heart syndrome	M	3	1.61	0.33 - 4.70
	F	5	2.78	0.90 - 6.48
Patent ductus arteriosus	M	153	82.02	69.54 - 96.10
	F	137	76.12	63.91 - 89.99
Coarctation of aorta	M	14	7.51	4.10 - 12.59
	F	7	3.89	1.56 - 8.01
Pulmonary artery anomaly	M	176	94.35	80.93 - 109.37
	F	146	81.12	68.50 - 95.40
RESPIRATORY				
Choanal atresia/stenosis	M	2	1.07	0.13 - 3.87
	F	1	0.56	0.01 - 3.10
Agenesis, aplasia, or hypoplasia of lung	M	7	3.75	1.51 - 7.73
	F	6	3.33	1.22 - 7.26
ORAL CLEFTS				
Cleft palate alone (without cleft lip)	M	10	5.36	2.57 - 9.86
	F	9	5.00	2.29 - 9.49
Cleft lip with or without cleft palate	M	31	16.62	11.29 - 23.59
	F	12	6.67	3.45 - 11.65
GASTROINTESTINAL				
Tracheo-esophageal fistula/esophageal atresia	M	5	2.68	0.87 - 6.26
	F	3	1.67	0.34 - 4.87
Pyloric stenosis	M	29	15.55	10.41 - 22.33
	F	5	2.78	0.90 - 6.48
Stenosis/atresia of small intestine	M	4	2.14	0.58 5.49
	F	5	2.78	0.90 - 6.48
Stenosis/atresia of large intestine, rectum,or anal canal	M	10	5.36	2.57 - 9.86
	F	4	2.22	0.61 - 5.69
Hirschsprung disease	M	1	0.54	0.01 - 2.99
	F	4	2.22	0.61 - 5.69
Biliary atresia	M	2	1.07	0.13 - 3.87
	F	1	0.56	0.01 - 3.10
GENITOURINARY				
Hypospadias/ epispadias	M	85	45.57	36.40 - 56.35
	F	0	0.00	0.00 - 2.05
Renal agenesis/ dysgenesis	M	5	2.68	0.87 - 6.26
	F	5	2.78	0.90 - 6.48
Obstructive genitourinary defect	M	41	21.98	15.77 - 29.82
	F	15	8.33	4.66 - 13.75
MUSCULOSKELETAL				
Congenital hip dislocation	M	2	1.07	0.13 - 3.87
	F	4	2.22	0.61 - 5.69
Reduction deformity of the upper limbs	M	6	3.22	1.18 - 7.00
	F	4	2.22	0.61 - 5.69
Reduction deformity of the lower limbs	M	4	2.14	0.58 - 5.49
	F	2	1.11	0.13 - 4.01
Craniosynostosis	M	9	4.82	2.21 - 9.16
	F	2	1.11	0.13 - 4.01
Diaphragmatic hernia	M	4	2.14	0.58 - 5.49
	F	3	1.67	0.34 - 4.87
Omphalocele	M	3	1.61	0.33 - 4.70
	F	1	0.56	0.01 - 3.10
Gastroschisis	M	6	3.22	1.18 - 7.00
	F	4	2.22	0.61 - 5.69
CHROMOSOMAL				
Down syndrome (includes trisomy 21, translocations, and mosaics)	M	19	10.19	6.13 - 15.91
	F	25	13.89	8.99 - 20.51
Patau syndrome (trisomy13)	M	2	1.07	0.13 - 3.87
	F	0	0.00	0.00 - 2.05
Edwards syndrome (trisomy18)	M	7	3.75	1.51 - 7.73
	F	2	1.11	0.13 - 4.01

Note: The sum of birth defects among males and females may not exactly equal the sum of birth defects shown in other tables. This is due to deliveries of undetermined sex.

*Cases per 10,000 live births.

Table 3: Prevalence of Selected Birth Defects by Mother's Age

Texas Birth Defects Monitoring Division, Birth Defects in the Lower Rio Grande Valley, 1996

Organ System/ Birth Defect	Age	Cases	Rate*	95% Confidence Interval for Rate
CENTRAL NERVOUS SYSTEM				
Anencephaly	< 20	5	7.31	2.37 - 17.07
	20-24	3	2.65	0.55 - 7.75
	25-29	3	3.08	0.63 - 9.00
	30-34	2	3.38	0.41 - 12.21
	35+	0	0.00	0.00 - 13.03
Spina bifida without anencephaly	<20	5	7.31	2.37 - 17.07
	20-24	8	7.07	3.05 - 13.94
	25-29	7	7.18	2.89 - 14.80
	30-34	2	3.38	0.41 - 12.21
	35+	1	3.53	0.09 - 19.68
Encephalocele	<20	0	0.00	0.00 - 5.40
	20-24	2	1.77	0.21 - 6.39
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	1	3.53	0.09 - 19.68
Microcephaly	<20	2	2.93	0.35 - 10.57
	20-24	4	3.54	0.96 - 9.06
	25-29	4	4.11	1.12 - 10.51
	30-34	2	3.38	0.41 - 12.21
	35+	1	3.53	0.09 - 19.68
Holopros-encephaly	<20	0	0.00	0.00 - 5.40
	20-24	2	1.77	0.21 - 6.39
	25-29	2	2.05	0.25 - 7.41
	30-34	1	1.69	0.04 - 9.41
	35+	1	3.53	0.09 - 19.68
Hydrocephaly	<20	3	4.39	0.90 - 12.82
	20-24	6	5.31	1.95 - 11.55
	25-29	6	6.16	2.26 - 13.40
	30-34	3	5.07	1.05 - 14.81
	35+	6	21.19	7.78 - 46.13
EYE OR EAR				
Anophthalmia	<20	1	1.46	0.04 - 8.15
	20-24	0	0.00	0.00 - 3.26
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
Microphthalmia	<20	1	1.46	0.04 - 8.15
	20-24	3	2.65	0.55 - 7.75
	25-29	1	1.03	0.03 - 5.72
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
Cataract	<20	1	1.46	0.04 - 8.15
	20-24	1	0.88	0.02 - 4.93
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	1	3.53	0.09 - 19.68
Anotia/Microtia	<20	1	1.46	0.04 - 8.15
	20-24	3	2.65	0.55 - 7.75
	25-29	4	4.11	1.12 - 10.51
	30-34	1	1.69	0.04 - 9.41
	35+	0	0.00	0.00 - 13.03
CARDIOVASCULAR				
Common truncus	<20	0	0.00	0.00 - 5.40
	20-24	1	0.88	0.02 - 4.93
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
Transposition of the great vessels	<20	1	1.46	0.04 - 8.15
	20-24	11	9.73	4.86 - 17.40
	25-29	3	3.08	0.63 - 9.00
	30-34	3	5.07	1.05 - 14.81
	35+	1	3.53	0.09 - 19.68
Tetralogy of Fallot	<20	4	5.85	1.59 - 14.98
	20-24	2	1.77	0.21 - 6.39
	25-29	3	3.08	0.63 - 9.00
	30-34	2	3.38	0.41 - 12.21
	35+	0	0.00	0.00 - 13.03
Ventricular septal defect	<20	42	61.43	44.27 - 83.04
	20-24	73	64.54	50.59 - 81.16
	25-29	67	68.76	53.29 - 87.32
	30-34	50	84.49	62.71 - 111.39
	35+	24	84.78	54.32 - 126.14
Atrial septal defect	<20	97	141.88	115.05 - 173.08
	20-24	167	147.66	126.11 - 171.83
	25-29	135	138.55	116.16 - 163.99
	30-34	110	185.87	152.77 - 224.03
	35+	58	204.87	155.57 - 264.85
Endocardial cushion defect	<20	0	0.00	0.00 - 5.40
	20-24	1	0.88	0.02 - 4.93
	25-29	2	2.05	0.25 - 7.41
	30-34	0	0.00	0.00 - 6.23
	35+	4	14.13	3.85 - 36.18
Pulmonary valve stenosis/atresia	<20	2	2.93	0.35 - 10.57
	20-24	8	7.07	3.05 - 13.94
	25-29	6	6.16	2.26 - 13.40
	30-34	4	6.76	1.84 - 17.31
	35+	6	21.19	7.78 - 46.13
Tricuspid valve stenosis/atresia	<20	52	76.06	56.80 - 99.74
	20-24	79	69.85	55.30 - 87.05
	25-29	68	69.79	54.19 - 88.47
	30-34	52	87.87	65.62 - 115.23
	35+	30	105.97	71.50 - 151.28
Aortic valve stenosis	<20	1	1.46	0.04 - 8.15
	20-24	4	3.54	0.96 - 9.06
	25-29	3	3.08	0.63 - 9.00
	30-34	1	1.69	0.04 - 9.41
	35+	0	0.00	0.00 - 13.03
Hypoplastic left heart syndrome	<20	3	4.39	0.90 - 12.82
	20-24	2	1.77	0.21 - 6.39
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	3	10.60	2.19 - 30.97
Patent ductus arteriosus	<20	47	68.74	50.51 - 91.41
	20-24	88	77.81	62.40 - 95.86
	25-29	61	62.60	47.89 - 80.42
	30-34	64	108.14	83.28 - 138.10
	35+	30	105.97	71.50 - 151.28
Coarctation of aorta	<20	4	5.85	1.59 - 14.98
	20-24	7	6.19	2.49 - 12.75
	25-29	3	3.08	0.63 - 9.00
	30-34	6	10.14	3.72 - 22.07
	35+	1	3.53	0.09 - 19.68
Pulmonary artery anomaly	<20	65	95.07	73.37 - 121.18
	20-24	94	83.11	67.16 - 101.71
	25-29	73	74.92	58.72 - 94.20
	30-34	54	91.25	68.55 - 119.06
	35+	36	127.16	89.06 - 176.05

Table continues on next page.

*Cases per 10,000 live births.

Table 3 Continued: Prevalence of Selected Birth Defects by Mother's Age

Texas Birth Defects Monitoring Division, Birth Defects in the Lower Rio Grande Valley, 1996

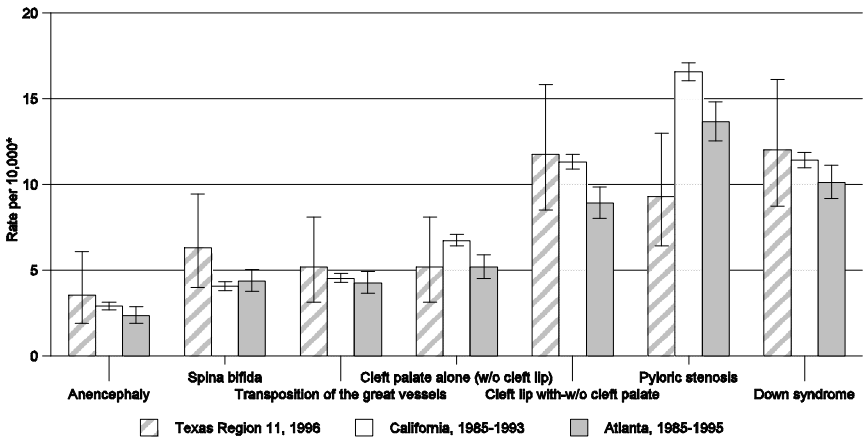
Organ System/ Birth Defect	Age	Cases	Rate*	95% Confidence Interval for Rate
RESPIRATORY				
Choanal atresia/stenosis	<20	0	0.00	0.00 - 5.40
	20-24	0	0.00	0.00 - 3.26
	25-29	0	0.00	0.00 - 3.79
	30-34	3	5.07	1.05 - 14.81
	35+	0	0.00	0.00 - 13.03
Agenesis, aplasia, or hypoplasia of lung	<20	4	5.85	1.59 - 14.98
	20-24	7	6.19	2.49 - 12.75
	25-29	1	1.03	0.03 - 5.72
	30-34	1	1.69	0.04 - 9.41
	35+	0	0.00	0.00 - 13.03
ORAL CLEFTS				
Cleft palate alone (without cleft lip)	<20	5	7.31	2.37 - 17.07
	20-24	6	5.31	1.95 - 11.55
	25-29	2	2.05	0.25 - 7.41
	30-34	5	8.45	2.74 - 19.72
	35+	1	3.53	0.09 - 19.68
Cleft lip with or without cleft palate	<20	8	11.70	5.05 - 23.06
	20-24	13	11.49	6.12 - 19.66
	25-29	12	12.32	6.36 - 21.51
	30-34	7	11.83	4.76 - 24.37
	35+	3	10.60	2.19 - 30.97
GASTROINTESTINAL				
Tracheo-esophageal fistula/esophageal atresia	<20	1	1.46	0.04 - 8.15
	20-24	2	1.77	0.21 - 6.39
	25-29	3	3.08	0.63 - 9.00
	30-34	0	0.00	0.00 - 6.23
	35+	2	7.06	0.86 - 25.52
Pyloric stenosis	<20	5	7.31	2.37 - 17.07
	20-24	15	13.26	7.42 - 21.87
	25-29	8	8.21	3.54 - 16.18
	30-34	4	6.76	1.84 - 17.31
	35+	2	7.06	0.86 - 25.52
Stenosis/atresia of small intestine	<20	1	1.46	0.04 - 8.15
	20-24	2	1.77	0.21 - 6.39
	25-29	5	5.13	1.67 - 11.97
	30-34	0	0.00	0.00 - 6.23
	35+	1	3.53	0.09 - 19.68
Stenosis/atresia of large intestine, rectum, or anal canal	<20	7	10.24	4.12 - 21.10
	20-24	4	3.54	0.96 - 9.06
	25-29	3	3.08	0.63 - 9.00
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
Hirschsprung disease	<20	0	0.00	0.00 - 5.40
	20-24	2	1.77	0.21 - 6.39
	25-29	2	2.05	0.25 - 7.41
	30-34	1	1.69	0.04 - 9.41
	35+	0	0.00	0.00 - 13.03
Biliary atresia	<20	0	0.00	0.00 - 5.40
	20-24	0	0.00	0.00 - 3.26
	25-29	0	0.00	0.00 - 3.79
	30-34	2	3.38	0.41 - 12.21
	35+	1	3.53	0.09 - 19.68
GENITOURINARY				
Hypospadias/ Epispadias	<20	12	17.55	9.07 - 30.66
	20-24	25	22.10	14.30 - 32.63
	25-29	28	28.74	19.09 - 41.53
	30-34	18	30.42	18.03 - 48.07
	35+	3	10.60	2.19 - 30.97
Renal agenesis or dysgenesis	<20	3	4.39	0.90 - 12.82
	20-24	2	1.77	0.21 - 6.39
	25-29	6	6.16	2.26 - 13.40
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
Obstructive genitourinary defect	<20	12	17.55	9.07 - 30.66
	20-24	22	19.45	12.19 - 29.45
	25-29	10	10.26	4.92 - 18.87
	30-34	8	13.52	5.84 - 26.64
	35+	4	14.13	3.85 - 36.18
MUSCULOSKELETAL				
Congenital hip dislocation	<20	0	0.00	0.00 - 5.40
	20-24	3	2.65	0.55 - 7.75
	25-29	0	0.00	0.00 - 3.79
	30-34	1	1.69	0.04 - 9.41
	35+	2	7.06	0.86 - 25.52
Reduction/ deformity of the upper limbs	<20	5	7.31	2.37 - 17.07
	20-24	2	1.77	0.21 - 6.39
	25-29	1	1.03	0.03 - 5.72
	30-34	2	3.38	0.41 - 12.21
	35+	0	0.00	0.00 - 13.03
Reduction deformity of the lower limbs	<20	1	1.46	0.04 - 8.15
	20-24	2	1.77	0.21 - 6.39
	25-29	1	1.03	0.03 - 5.72
	30-34	0	0.00	0.00 - 6.23
	35+	2	7.06	0.86 - 25.52
Craniosynostosis	<20	0	0.00	0.00 - 5.40
	20-24	3	2.65	0.55 - 7.75
	25-29	5	5.13	1.67 - 11.97
	30-34	2	3.38	0.41 - 12.21
	35+	1	3.53	0.09 - 19.68
Diaphragmatic hernia	<20	1	1.46	0.04 - 8.15
	20-24	4	3.54	0.96 - 9.06
	25-29	0	0.00	0.00 - 3.79
	30-34	1	1.69	0.04 - 9.41
	35+	1	3.53	0.09 - 19.68
Omphalocele	<20	0	0.00	0.00 - 5.40
	20-24	3	2.65	0.55 - 7.75
	25-29	0	0.00	0.00 - 3.79
	30-34	1	1.69	0.04 - 9.41
	35+	1	3.53	0.09 - 19.68
Gastroschisis	<20	6	8.78	3.22 - 19.10
	20-24	4	3.54	0.96 - 9.06
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
CHROMOSOMAL				
Down syndrome (includes trisomy 21, translocations and mosaics)	<20	5	7.31	2.37 - 17.07
	20-24	4	3.54	0.96 - 9.06
	25-29	5	5.13	1.67 - 11.97
	30-34	11	18.59	9.28 - 33.26
	35+	19	67.11	40.41 -104.81
Patau syndrome (trisomy13)	<20	0	0.00	0.00 - 5.40
	20-24	1	0.88	0.02 - 4.93
	25-29	0	0.00	0.00 - 3.79
	30-34	1	1.69	0.04 - 9.41
	35+	0	0.00	0.00 - 13.03
Edwards syndrome (trisomy18)	<20	1	1.46	0.04 - 8.15
	20-24	2	1.77	0.21 - 6.39
	25-29	2	2.05	0.25 - 7.41
	30-34	1	1.69	0.04 - 9.41
	35+	3	10.60	2.19 - 30.97

*Cases per 10,000 live births.

Texas Data Compared to Data from Other Surveillance Systems

Texas Region 11 prevalence data for seven conditions were compared to data from two other active birth defect surveillance systems, the California Birth Defects Monitoring Program and the Metropolitan Atlanta Congenital Defects Program (Figure 4). Region 11 prevalence data were not statistically significantly different from California or Atlanta data for anencephaly, spina bifida, transposition of the great vessels, cleft palate alone, cleft lip with or without cleft palate, or Down syndrome. However, the prevalence of pyloric stenosis was lower in Region 11 than in either California or Atlanta.

Figure 4: Comparison of Texas Region 11 data to other surveillance systems



*Note: Texas and Atlanta rates are per 10,000 live births, while California rates are per 10,000 live births and fetal deaths.

Table 4: Number of Live Births and Fetal Deaths by Maternal Age, Race/Ethnic Group and Sex

		# Live Births	# Fetal Deaths
Region 11		**36,651**	**191**
By Maternal Age	<20	6,837	40
	20-24	11,310	49
	25-29	9,744	39
	30-34	5,918	32
	35+	2,831	23
	Unknown	11	8
By Race/Ethnic Group	White	3,599	26
	African American	291	7
	Hispanic	32,477	156
	Other / Unknown	284	2
By Sex of Infant or Fetus	Female	18,653	90
	Male	17,998	100
	Unknown	0	1